

REMARKS

Applicants amended the first paragraph of the specification to reflect the status of the parent application as U.S. Patent No. 6,667,398.

Applicants amended Claims 27-29, 31, 35 and 38, as suggested by the Examiner, to correct multiple dependency form. Support for these amendments were provided in the claims from which they previously depended.

Claim 41 was amended to add a proviso and to further clarify the term derivative.

Claim 42 was canceled.

35 U.S.C. § 112(2<sup>nd</sup> Par.) Rejection.

(a) Paragraph 10. The Examiner rejected Claims 17-40 under 35 U.S.C. § 112(2<sup>nd</sup> Par.), as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner states that the term R<sup>x</sup> is an open definition and suggested amending the Claim to list the particular radicals of interest.

As suggested by the Examiner, Applicants amended Claim 17 to define preferred groups of R<sup>x</sup>. Support for this amendment may be found at page 10 of the specification. Applicants believe this amendment now renders the objection moot.

(b) Paragraph 11. The Examiner rejected Claims 17-25, 30, 31 and 41 under 35 U.S.C. § 112(2<sup>nd</sup> Par.), as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner contends that the term "derivative" is indefinite, since it does not state what compounds are contemplated.

Applicants traverse the rejection of Claims 17-25, 30, 31 and 41. "Definiteness of claim language must be analyzed, not in a vacuum, but in light of

- (A) The content of the particular application disclosure;
- (B) The teachings of the prior art; and
- (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." MPEP § 2173.02.

Applicants submit that the language of the claims is definite, in light of the disclosure of the application and the knowledge of one of ordinary skill in the art. Claim 17

states that "G represents a carboxylic acid group (-C(O)OH) or a derivative thereof." Applicants respectfully direct the Examiner's attention to page 11, lines 21-22, to page 12, lines 1-15, of the specification wherein the term "derivative of a carboxylic acid group" is defined as including "groups which are commonly derived from a carboxylic acid and/or groups that contain a central carbon atom (which carbon atom is attached to the phenyl or pyridyl ring in the compound of formula IV) that is at the same oxidation state as -C(O)OH. The term therefore includes groups such as -CN, -C(OR<sup>e</sup>)<sub>3</sub>, -C(O)NH<sub>2</sub> or -C(=NOR<sup>f</sup>)N(R<sup>e</sup>)<sub>2</sub>, wherein R<sup>f</sup> represents H or lower alkyl and R<sup>e</sup> is as hereinbefore defined." Applicants submit that one of ordinary skill in the art would understand the term "derivative of a carboxylic acid," as claimed in Claim 17, especially in light of the further explanation within the specification, as detailed above. The scope of the subject matter embraced by the claims is clear, as defined within the specification.

Accordingly, Applicants respectfully request that the Examiner reconsider the rejection of Claims 17-25, 30, 31 and 41.

(c) Paragraph 12. The Examiner rejected Claims 17-25 and 30-37 under 35 U.S.C. § 112(2<sup>nd</sup> Par.), as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner contends that the phrase, "with an appropriate reagent for converting the group G to a -C(RX)=NH group," is indefinite.

Applicants traverse the rejection of Claims 17-25 and 30-37. Again, as stated above in Paragraph 11, Applicants submit that the language of the claims is definite, in light of the disclosure of the application and the knowledge of one of ordinary skill in the art. In particular, there is specific basis in the description for conversion of various compounds of Formula IV using a variety of reagents – wherein G has different meanings – into a -C(RX)=NH group. See Spec. at pp. 12-16. Furthermore, as stated in the description, "[p]rocedures for the conversion of selected groups which G may represent to certain -C(RX)=NH groups are known to those skilled in the art...." Spec. at p. 12, lines 18-25 (citing various references).

Consequently, the claim language is not indefinite and when analyzed in light of (A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made."

MPEP § 2173.02. Accordingly, Applicants respectfully request that the Examiner reconsider the rejection of Claims 17-25 and 30-37.

(d) Paragraph 13. Claims 26-29 are rejected under 35 U.S.C. § 112(2<sup>nd</sup> Par.), as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner contends that the phrase “with a reagent that will convert one R<sup>X</sup> group to another” is indefinite.

Applicants traverse the rejection of Claims 26-29. Again, as stated above in Paragraph 11, Applicants submit that the language of the claims is definite, in light of the disclosure of the application and the knowledge of one of ordinary skill in the art. Applicants describe in detail at pages 16 and 17 various ways in which the compound of Formula II may be prepared and by what reagents. For example, a compound of Formula II may be reacted with a compound of formula VA, (pg 16, line 14), compound of formula VD, an acid (pg 16, line 23) or a compound of formula VF (pg 17, line 6-7).

Given the specific description of various reagents and the knowledge possessed by one of ordinary skill in art, the language of Claims 26-29 is not indefinite. Accordingly, Applicants respectfully request that the Examiner reconsider the rejection of Claims 26-29.

(e) Paragraph 14. Claim 31 is rejected under 35 U.S.C. § 112(2<sup>nd</sup> Par.), as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner contends that the phrase “with a reagent that may be used for the introduction of a SO<sub>2</sub>L<sup>1</sup> group into an aromatic or heteroaromatic ring system” is indefinite.

Applicants traverse the rejection of Claim 31 and, again, maintain that the claim language is not indefinite and when analyzed in light of (A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. MPEP § 2173.02.

As stated by Applicants in the description, the preparation of the compound of formula VI via the compound of Formula VIII may be prepared using “*conventional methods*” to introduce the SO<sub>2</sub>L<sup>1</sup> group. Applicants further describe such a method. Consequently, one of ordinary skill in the art would understand and know what types

of conventional reagents and methods would be necessary to introduce such group. Accordingly, the language of Claim 31 is not indefinite. Applicants respectfully request reconsideration of the rejection of Claim 31.

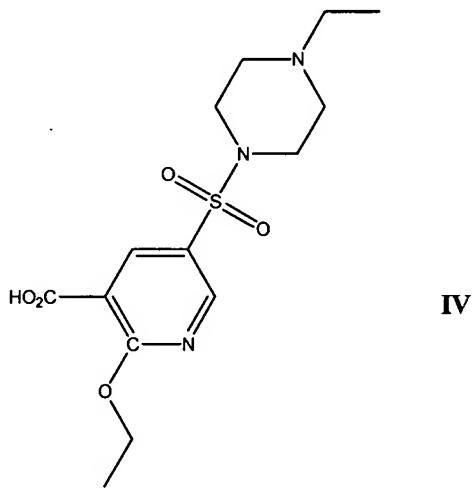
35 U.S.C. § 102(b) Rejection of Claims 41-43.

(a) Claim 41 was rejected as anticipated by Dunn (EP812,845). In particular, the Examiner contends that the compound of Formula IV of the instant application is described in Dunn as the compound of Formula V.

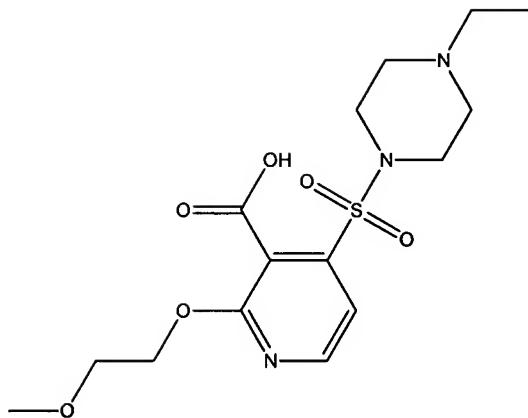
Applicants amended Claim 41 to proviso out such compound. Accordingly, the rejection is now moot.

(b) Claim 41 was also rejected as anticipated by Johnson (Synlett). Applicants traverse the rejection of Claim 41 and, particularly, the Examiner's interpretation of "derivative." Notwithstanding Applicants' rejection, Applicants believe that the amendments of Claim 41 renders the rejection moot. Accordingly, Applicants respectfully request that the Examiner reconsider the rejection of Claim 41.

(c) Claims 41-43 were rejected as anticipated by Bunnage (WO99/54333). The Examiner contends that the following compound of Formula IV (wherein A = N, R<sup>3</sup> = R<sup>4</sup> = ethyl and G = CO<sub>2</sub>H) is disclosed on page 127, preparation 25, of Bunnage.



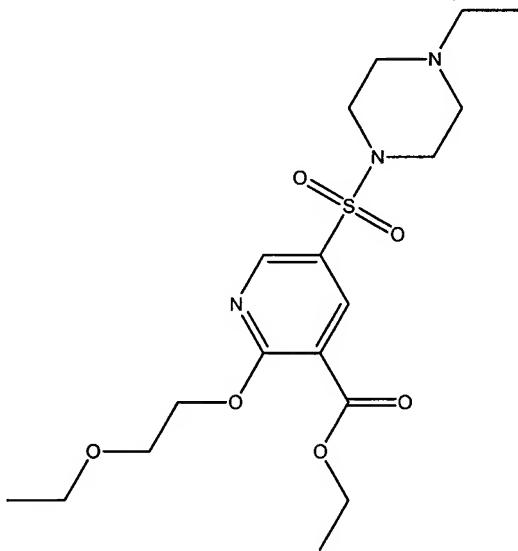
Applicants respectfully traverse the rejection of Claims 41 and 43 (Claim 42 was canceled). In particular, Applicants point out that the compound described on page 127 of Bunnage is as follows:



4-(4-ethylpiperazin-1-ylsulphonyl)-2-(2-methoxyethoxy)pyridine-3-carboxylic acid

Accordingly, the compound described in Preparation 25 of Bunnage does not anticipate Claims 41 and 43.

The Examiner states that the ethyl ester of the above Bunnage compound is described at Preparation 20 of Bunnage (pg. 125, lines 1-9) and is depicted below:



2-(2-ethoxyethoxy)-5-(4-ethylpiperazin-1-ylsulphonyl)pyridine-3-carboxylic acid ethyl ester

Applicants respectfully point out that the above compound is not the ethyl ester of the compound described in Preparation 25 of Bunnage. Furthermore, this compound does not anticipate Claim 43 (2-(2-Ethoxy)-5-(4-ethylpiperazin-1-ylsulphonyl)pyridine-3-carboxylic acid ethyl ester). Finally, Claim 41 is not anticipated, in light of the amendments thereof.

CONCLUSION

Having addressed all points and concerns raised by the Examiner, Applicants respectfully request an early and favorable action in this application.

Respectfully submitted,

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